MASTER

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DISTRIBUTION OF CERIANTHIDS (COELENTERATA, ANTHOZOA, CERIANTHARIA) ON THE U.S. EAST COAST CONTINENTAL MARGIN, 1955-1969: COLLECTION DATA AND ENVIRONMENTAL MEASUREMENTS

by

Andrew N. Shepard and Roger B. Theroux

☒ APPROVED FOR DISTRIBUTION

M. D. Grosslein

(APPROVING OFFICIAL)

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INTRODUCTION

Data presented in this report are for benthic samples from the northwest Atlantic continental margin (north of 35°N latitude) analyzed by the National Marine Fisheries Service, Northeast Fisheries Center, Woods Hole Laboratory (formerly the Bureau of Commercial Fisheries, Biological Laboratory), Woods Hole, Massachusetts. The samples were collected during cooperative efforts of the National Marine Fisheries Service, the Woods Hole Oceanographic Institution, and the U.S. Geological Survey. They were obtained for a broad biological and geological study of the U.S. continental margin extending from Nova Scotia to Florida. Locations of all samples (11,700) taken for the study are shown in Figure 1.

The data on cerianthids, tube dwelling anemones, are presented in three tables: 1) quantitative data from grab samples containing living organisms, 2) qualitative data from dredges and trawls containing living material, and 3) qualitative data from all gears consisting only of tube (non-living) remains. Gear codes are interpreted in the table captions.

Data are arranged chronologically by vessel and cruise. Research vessels from which the collections were made were: R/V Albatross III, R/V Albatross IV, and R/V Delaware of the National Marine Fisheries Service; and R/V Asterias and R/V Gosnold of the Woods Hole Oceanographic Institution. Cruise codes are explained in the caption to Table 1.

Latitude and longitude were obtained by LORAN for all offshore stations and dead reckoning was used for inshore locations. Water depths were determined by sonic methods offshore and by means of lead-line in shallow,

inshore areas. Offshore water temperatures were obtained with mechanical bathythermographs and inshore by direct measurement of sediment samples. A sediment sample was obtained from each collection and analyzed by the Woods Hole Oceanographic Institution or U.S. Geological Survey. More detailed information pertaining to the geological analyses is given in Hathaway (1971). Processing methodology for quantitative data and specifics on the grab samplers employed may be found in a report by Wigley and Theroux (1981).

Charts showing locations of quantitative and qualitative samples containing anemones and/or tubes are presented in Figure 2.

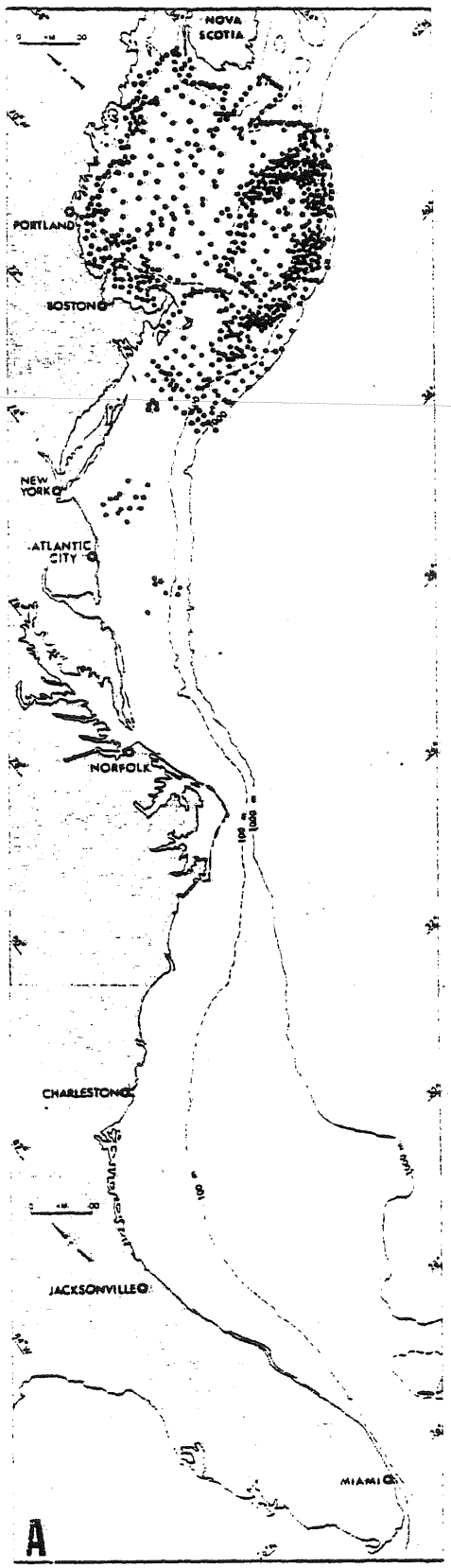
Literature Cited

Hathaway, J.C. 1971. Data file, Continental Margin Program, Atlantic coast of the United States, Vol. 2: Sample collection and analytical data. Tech. Rep. Woods Hole Oceanographic Institute, Woods Hole, Ma., Ref. No. 71-15.

Wigley, R.L. and B.R. Burns 1971. Distribution and biology of mysids (Crustacea, Mysidea) from the Atlantic coast of the United States in the NMFS Woods Hole collection. Fish. Bull. 69(4): 717-746.

Wigley, R.L. and R.B. Theroux 1981. Atlantic Continental Shelf and Slope of the United States -- Macrobenthic invertebrate fauna of the Middle Atlantic Bight region -- Faunal composition and quantitative distribution. Geological Survey Professional Paper 529-N. U.S. Government Printing Office, Washington D.C., 20402.

Figure 1. Chart of the Atlantic Continental Shelf and adjacent area showing the location of surface vessel sampling stations. A. samples collected with haul-type collection instruments. B. samples collected by means of grab samplers. (From Wigley and Burns, 1971)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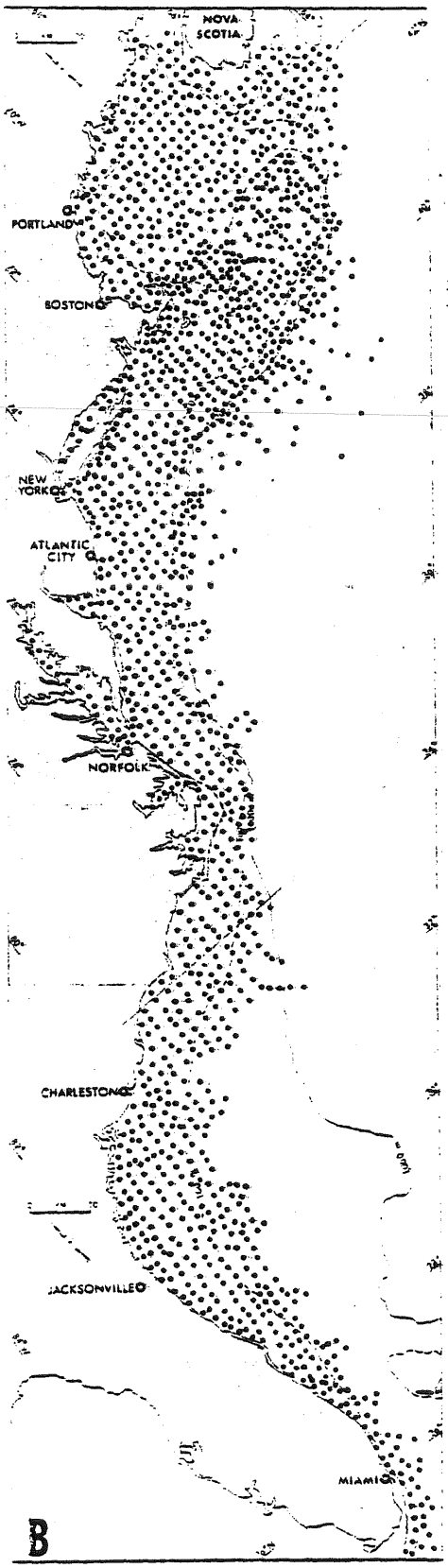
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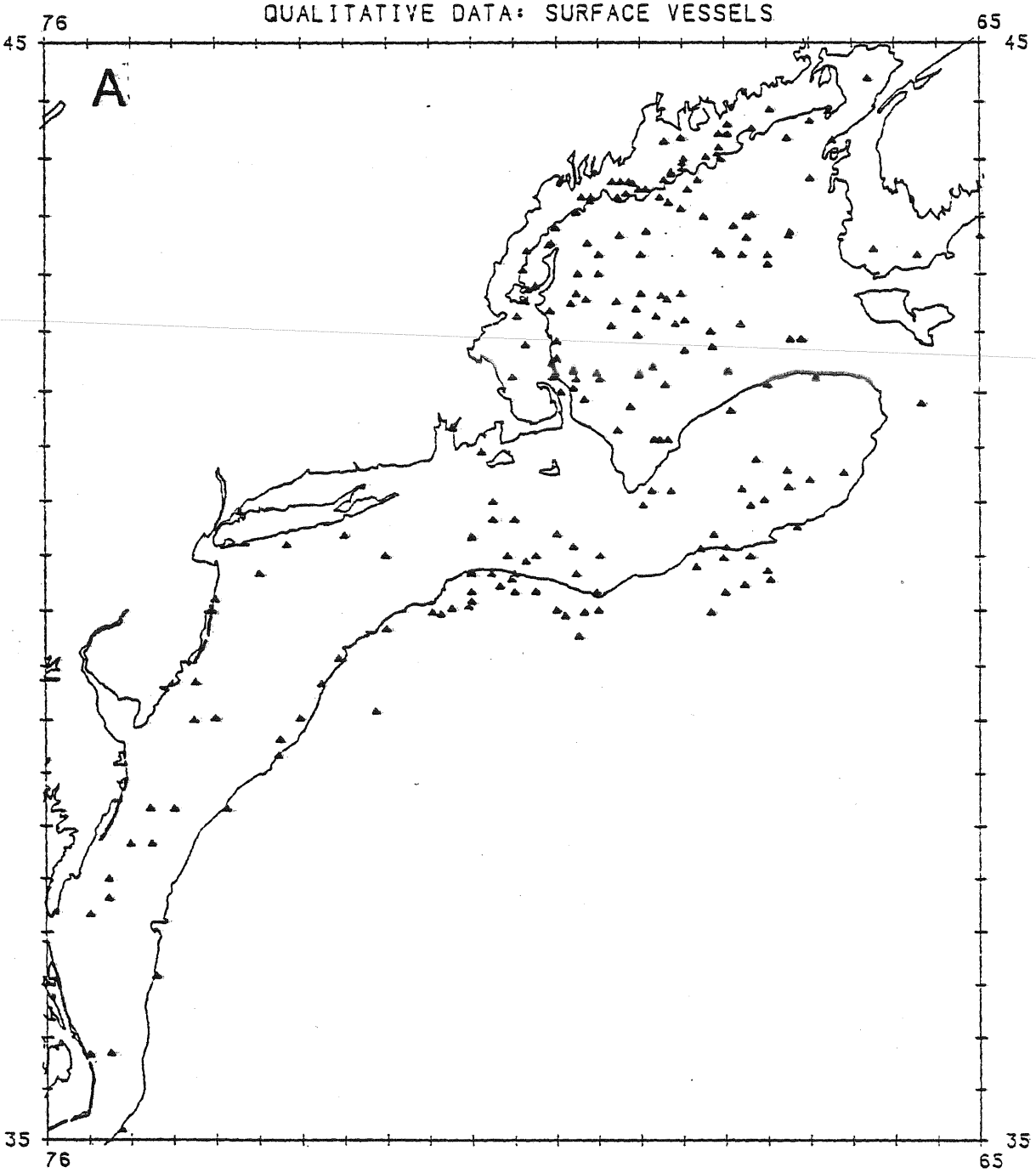
Figure 2. Chart of the Northwest Atlantic continental shelf and adjacent area showing the location of surface vessel sampling stations at which cerianthids were caught. A. qualitative samples. B. quantitative samples.

QUALITATIVE DATA: SURFACE VESSELS



COMPLETE MAP: 18-MAR-83
MAP NUMBER: 1

QUANTITATIVE DATA: SURFACE VESSELS

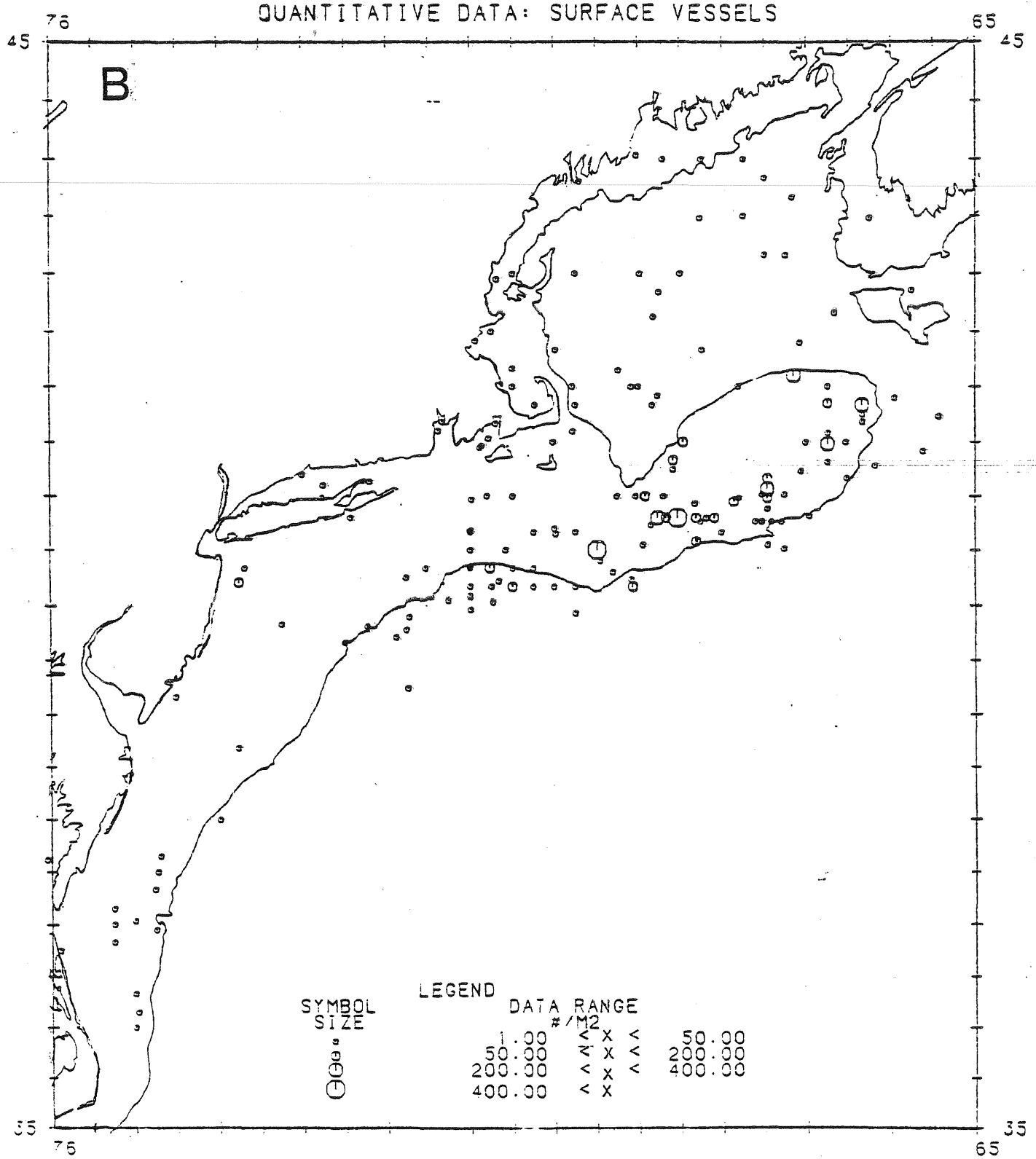


Table 1. Data for quantitative grab samples in which cerianthid anemones and/or tubes were caught. Cruise code: XX-Y-Z; XX= year, Y= vessel (1= Albatross III, 2= Delaware, 3= Gosnold, 4= Albatross IV, 5= Asterias), Z= cruise leg number. Gear codes: 1= Van Veen grab (0.2 m^2), 2= Smith-McIntyre grab (0.1 m^2), 3= Campbell grab (0.56 m^2). Asterisk in wet weight column indicates cerianthid tube(s) only.

TABLE 1

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp. (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
55-1-5	01	03	1	41°00'	70°48'	10/03	44	--	Sand	.01	2
		21	1	"	"	10/05	"	--	"	.01	1
		23	1	"	"	"	"		"	.03	6
		25	1	"	"	"	42	--	"	.02	3
		26	1	"	"	"	"	--	"	.01	2
		28	1	"	"	"	43	--	"	.02	1
	02	07	1	40°30'	70°35'	10/04	68	--	Silt/Clay	.32	14
		08	1	"	"	"	"	--	"	.32	22
		08	1	"	"	"	"	--	"	4.61	3
		09	1	"	"	"	"	--	"	1.02	3
55-1-6	05	01	1	40°33'	68°57'	11/16	66	2.3	Sand	*	3
	07	01	1	40°35'	68°18'	11/17	73	1.6	"	1.00	1
56-1-2	01	13	2	40°35'	68°19'	08/11	92	--	"	.02	5
	02	12	2	40°49'	66°58'	08/12	93	--	"	.01	1
	03	03	2	41°54'	65°57'	08/13	108	--	"	.09	1
57-1-1	01	01	2	41°36'	69°47'	08/21	28	--	"	.01	1
	09	01	2	42°00'	69°05'	"	196	--	Sand/Silt/Clay	4.30	1
	30	01	2	40°14'	69°05'	08/22	95	--	Sand	.01	1
	40	01	2	40°44'	68°51'	08/23	60	--	"	.02	3
	53	01	2	41°50'	68°50'	"	159	--	Clayey/Sand	130.40	1
	56	01	2	41°55'	68°46'	"	154	--	Gravelly sand	.20	1
	70	01	2	40°57'	67°52'	08/24	51	--	Sand	.39	10
	72	01	2	40°59'	67°49'	"	66	--	"	.75	1
	78	01	2	40°33'	67°28'	"	117	--	"	.01	1
	82	01	2	40°53'	67°28'	"	77	--	"	.10	2
	83	01	2	40°59'	67°28'	"	68	--	"	1.90	7
	84	01	2	41°04'	67°28'	"	60	--	"	.89	31
	106	01	2	42°06'	67°09'	08/25	48	--	Gravelly sand	.01	27
	111	01	2	42°00'	66°45'	"	73	--	"	.01	2
	127	01	2	41°50'	66°20'	08/26	79	--	Sand	.23	20
	128	01	2	41°45'	66°20'	"	79	--	"	.01	1
	129	01	2	41°41'	66°20'	"	86	--	"	.01	1
	163	01	2	41°35'	66°45'	08/27	71	--	"	.68	3
	164	01	2	41°29'	66°45'	08/28	70	--	"	.45	24
	166	01	2	41°19'	66°45'	"	77	--	"	.01	1
	177	01	2	40°46'	67°18'	"	92	--	"	.01	1
	178	01	2	40°46'	67°25'	"	84	--	"	.10	3
	179	01	2	40°46'	67°32'	"	81	--	"	.61	4
	180	01	2	40°46'	67°37'	"	75	--	"	.01	3
	184	01	2	40°48'	68°06'	"	66	--	"	.11	5
	185	01	2	40°48'	68°12'	"	59	--	"	.01	1
	186	01	2	40°48'	68°19'	"	57	--	"	.07	7
	188	01	2	40°48'	68°32'	08/28	53	--	Sand	1.71	137
	189	01	2	40°48'	68°40'	"	62	--	Gravelly sand	.14	12
	190	01	2	40°48'	68°46'	"	66	--	Sand	3.18	37
	198	01	2	41°00'	69°15'	08/29	60	--	Gravelly sand	.01	1
	200	01	2	41°00'	69°02'	"	79	--	"	.01	3
	201	01	2	41°00'	68°55'	"	77	--	"	.39	7
	203	01	2	41°00'	68°42'	"	64	--	Sandy gravel	.55	3
	207	01	2	41°15'	68°35'	"	62	--	Gravelly sand	.01	1
	208	01	2	41°20'	68°35'	"	68	--	Sand	.09	6
	218	01	2	41°30'	68°28'	"	77	--	"	.04	9

TABLE 1 (Continued)

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp. (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
58-1-8	07	05	2	41°27'	70°53'	12/17	13	--	Silty/Clay	20.70	1
59-2-1	02	01	2	42°00'	69°47'	08/05	139	5.0	Sand	.11	1
	09	01	2	42°00'	69°00'	"	135	4.4	"	.81	1
	24	01	2	42°00'	67°49'	08/06	88	4.9	"	.01	2
61-2-2	25	01	2	43°00'	68°30'	06/22	201	4.9	Sandy mud	*	1
	30	01	2	43°00'	69°45'	06/23	183	4.7	Muddy gravel	*	1
	44	01	2	43°10'	67°30'	06/24	211	6.7	Tilloid	.01	1
	45	01	2	43°10'	67°15'	06/24	203	5.8	Silty sand	*	1
	72	01	2	43°30'	67°45'	06/26	265	6.1	Sand-Silt-Clay	106.20	1
	81	01	2	43°40'	67°10'	06/27	201	6.1	Tilloid	*	1
	93	01	2	43°50'	67°30'	06/28	214	6.4	"	*	1
	102	01	2	44°00'	67°45'	06/28	179	6.7	Sandy mud	*	1
	104	01	2	44°00'	68°15'	06/28	101	5.6	Silty clay	50.20	1
	107	01	2	43°29'	68°16'	06/29	183	6.6	Sand-Silt-Clay	*	1
	113	01	2	42°50'	68°45'	"	242	5.6	Silty clay	.05	1
	115	01	2	43°00'	68°59'	"	135	4.6	Sand-Silt-Clay	.10	1
62-2-3	04	01	2	40°30'	69°29'	06/13	62	7.1	Sand	.90	15
		02	2	"	"	"	"	"	"	2.24	12
	09	01	2	39°56'	69°45'	06/14	51	8.9	"	.20	5
		02	2	"	"	"	"	"	"	.21	1
	11	01	2	40°10'	69°45'	"	95	7.3	Silty sand	1.00	2
	14	02	2	40°40'	69°45'	"	59	7.5	Sand	.01	1
	17	02	2	40°39'	69°59'	06/15	49	7.5	"	.01	1
	20	02	2	40°10'	70°00'	"	117	1.4	Silty sand	52.50	1
	23	01	2	40°10'	70°15'	"	114	1.6	"	.15	3
		02	2	"	"	"	"	"	"	.01	1
	24	01	2	40°20'	70°15'	"	90	7.8	"	.52	2
	26	02	2	40°40'	70°15'	"	51	7.2	Sand	.01	1
	31	01	2	41°00'	70°30'	06/16	48	7.5	"	.01	1
	35	02	2	40°20'	70°30'	"	97	--	Sandy silt	.55	1
	36	01	2	40°10'	70°30'	"	128	2.1	Silty sand	2.83	11
		02	2	"	"	"	"	"	"	.79	3
	38	01	2	40°02'	70°44'	06/17	194	0.8	Silty sand	.09	2
		02	2	"	"	"	"	"	"	.17	5
	39	01	2	40°10'	70°45'	"	132	1.7	"	*	1
	40	01	2	40°20'	70°46'	"	106	9.2	Sand-Silt-Clay	.52	5
	49	01	2	40°40'	71°00'	06/18	70	6.3	Sandy silt	.01	1
		02	2	"	"	"	"	"	"	.09	2
	50	02	2	40°30'	71°00'	"	84	6.3	Clayey silt	*	1
	51	01	2	40°21'	71°00'	"	99	9.4	Sandy silt	1.19	2
		02	2	"	"	"	"		"	2.28	7
	52	01	2	40°10'	71°00'	"	146	0.8	Silty sand	.14	2
		02	2	"	"	"	"	"	"	.37	2
	56	01	2	40°03'	71°16'	06/19	183	0.3	Sand	.12	3

TABLE 1 (Continued)

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp. (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
63-3-1	1005	01	2	41°28'	70°52'	04/26	22	--	Sandy silt	1.35	3
		02	2	"	"	"	"	--	"	*	1
	1006	01	3	41°32'	70°47'	"	18	--	Sand-Silt-Clay	*	1
63-3-3	1013	01	3	41°30'	70°01'	05/02	"	--	Sand	4.51	1
	1017	01	3	42°57'	70°41'	05/03	44	--	"	.01	1
	1018	01	3	43°00'	70°30'	"	95	--	Clayey silt	*	1
	1035	01	3	44°00'	68°42'	05/04	102	--	Sand-Silt-Clay	9.12	4
	1046	01	3	42°20'	68°15'	05/06	208	--	"	*	2
	1052	01	3	42°09'	69°14'	"	194	--	Sand	*	6
63-3-4	1068	01	3	40°20'	71°32'	05/12	85	--	Sand-Silt-Clay	.03	3
	1072	01	3	39°54'	71°44'	"	139	--	Silty sand	.10	1
	1073	01	3	39°47'	71°46'	"	301	--	"	*	1
	1074	01	3	39°43'	71°53'	"	225	--	Sand	.01	1
	1076	01	3	39°49'	72°14'	05/13	89	--	Sand	*	1
	1083	01	3	40°15'	71°46'	"	82	--	Silty sand	*	1
63-3-6	1113	01	3	40°40'	68°01'	08/06	86	--	Sand	*	1
	1117	01	3	40°31'	67°16'	08/07	235	--	"	.14	2
	1120	01	3	41°01'	67°16'	"	74	--	Gravelly sand	*	3
	1125	01	3	41°10'	66°31'	"	95	--	Shelly sand	*	1
	1127	01	3	41°30'	66°32'	"	88	--	Sandy shell	.92	1
	1129	01	3	41°51'	66°45'	08/08	65	--	Gravelly sand	10.64	61
	1154	01	3	42°51'	65°45'	08/10	110	--	"	.47	1
	1156	01	3	43°00'	66°15'	"	116	--	Gravel	1.08	1
	1160	01	3	43°29'	66°15'	"	82	--	"	.25	1
	1182	01	3	44°02'	69°01'	08/13	86	--	Salty sand	1.80	1
	1195	01	3	42°20'	69°59'	08/16	211	--	Sand-Silt-Clay	.11	1
	1200	01	3	42°30'	70°45'	08/17	43	--	Sand	.12	1
	1203	01	3	42°10'	70°30'	"	55	--	Sandy silt	*	2
	1204	01	3	42°00'	70°30'	08/17	38	--	Sandy gravel	.40	7
	1206	01	3	41°50'	70°14'	"	28	--	Sand	10.60	15
	1208	01	3	41°40'	70°42'	"	10	--	Sand	.26	1
63-3-7	1212	01	3	41°50'	69°45'	08/24	126	--	Silty sand	.78	1
	1221	01	3	41°30'	67°01'	08/27	66	--	Sand	1.28	10
63-3-9	1304	01	3	39°50'	73°15'	10/12	46	--	Gravelly sand	.04	2
	1308	01	3	39°40'	72°30'	10/13	86	--	Sand	.02	1
	1346	01	3	39°10'	74°31'	10/16	23	--	Sand	.29	3
	1361	01	3	38°41'	73°46'	10/19	54	--	Shelly sand	3.49	3
	1383	01	3	40°12'	73°45'	10/25	59	--	Silty sand	4.47	50
	1385	01	3	40°20'	73°41'	"	28	--	Sand	3.77	5
	1396	01	3	40°48'	72°26'	10/26	28	--	"	.02	1
64-3-2	1420	01	3	37°39'	74°42'	05/17	48	--	Sand	1.21	1
	1421	01	3	37°30'	74°44'	"	48	--	"	.12	1
	1424	01	3	37°02'	75°00'	"	43	--	"	3.00	8

TABLE 1 (Continued

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp. (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
65-4-7	11	03	2	39°58'	71°00'	08/19	458	6.0	Silt	.80	1
		07	2	"	"	"	"	"	Silt-Clay	.01	1
		10	2	"	"	"	"	6.5	Silt	.16	1
	13	01	2	40°13'	70°40'	"	121	9.0	Silt-Clay	4.64	1
	26	01	2	40°42'	70°00'	08/20	40	--	Sand	.48	1
	29	01	2	40°24'	69°27'	"	70	--	"	3.46	3
	30	01	2	40°18'	69°18'	"	84	--	"	.08	1
	32	01	2	40°10'	69°04'	08/21	403	--	"	1.23	5
	38	01	2	40°46'	68°16'	"	55	--	"	1.15	1
	42	01	2	41°01'	67°32'	08/22	66	--	"	2.96	1
	43	06	2	41°10'	67°28'	"	48	--	"	20.28	150
		07	2	"	"	"	"	--	"	5.68	1
		08	2	"	"	"	"	--	"	11.80	2
		10	2	"	"	"	"	--	"	2.65	1
	44	01	2	41°14'	67°04'	"	64	--	"	2.25	1
	46	01	2	41°17'	66°11'	08/23	183	--	Gravelly sand	98.20	1
	51	01	2	42°24'	67°05'	"	329	--	"	4.12	2
		04	2	"	"	"	"	6.0	Silt-Clay	.29	1
		05	2	"	"	"	"	5.5	"	.19	1
		08	2	"	"	"	"	"	Sandy silt	.48	1
		09	2	"	"	"	"	--	Gravelly sand	.09	1
	52	01	2	42°40'	66°40'	08/24	165	--	Sand	.49	1
	56	01	2	43°10'	67°30'	"	188	--	"	15.50	2
	61	01	2	42°38'	68°49'	08/25	166	--	Silt-Clay	156.00	1
65-5-1	2332	01	2	36°45'	75°54'	06/07	11	--	Shelly sand	1.46	2

TABLE 1 (Continued)

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp. (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
64-3-2	1873	01	3	36°00'	75°00'	06/27	41	--	Sand	1.34	3
	1874	01	3	36°09'	74°58'	"	40	--	Gravelly shell	*	1
	1875	01	3	36°20'	75°00'	"	35	--	Sand	3.35	6
	1880	01	3	36°57'	74°45'	"	77	--	Shelly sand	.48	1
	1883	01	3	37°20'	74°46'	06/28	52	--	Sand	*	1
	1891	01	3	38°00'	73°59'	"	125	--	"	*	1
64-3-3	2048	01	3	37°09'	75°15'	08/05	30	--	"	*	1
	2051	01	3	37°00'	75°15'	"	36	--	"	*	1
	2052	01	3	36°50'	75°15'	"	29	--	"	*	1
	2127	01	3	39°15'	71°45'	"	2055	--	Silty clay	1.14	1
64-3-4	2205	01	3	41°44'	65°26'	09/18	1934	--	Silty sand	.56	1
	2206	01	3	41°25'	65°37'	09/18	2329	--	Sand-Silt-Clay	*	1
64-4-1	207	02	2	40°56'	68°20'	10/11	48	--	Sand	2.68	4
64-4-3	101	01	2	44°00'	68°15'	11/13	110	--	Silt-Clay	*	1
		02	2	"	"	"	"	--	"	*	1
		08	2	"	"	"	"	--	"	*	1
64-5-2	1893	01	2	42°25'	70°56'	07/02	13	--	Gravelly sand	.02	1
	1920	01	2	43°48'	69°42'	07/13	55	--	Silty clay	*	1
	1933	01	2	41°41'	71°20'	07/20	6	--	Sandy silt	.91	3
	1934	01	2	41°36'	71°23'	"	9	--	"	.33	4
	1944	01	2	41°06'	72°45'	07/23	29	--	"	.12	1
	1945	01	2	40°59'	72°46'	"	18	--	Clayey silt	.46	1
	1947	01	2	41°12'	73°00'	"	11	--	"	2.18	1
	1986	01	2	37°46'	76°11'	08/01	30	--	Silty clay	6.10	1
	1988	01	2	37°37'	76°03'	"	15	--	Sand	2.63	3
	1990	01	2	37°25'	76°07'	08/02	12	--	Sandy silt	.31	1
	1993	01	2	37°06'	76°08'	"	12	--	"	1.21	1
	2008	01	2	41°08'	72°12'	08/08	15	--	Silty sand	3.20	2
64-4-7	03	06	2	40°58'	70°59'	08/17	49	--	Sand	.60	1
		09	2	"	"	"	"	--	"	.45	1
	05	01	2	40°41'	71°00'	08/18	59	--	Silt	.60	1
		02	2	"	"	"	"	--	Silt-Clay	1.81	1
		03	2	"	"	"	"	--	"	3.37	5
		04	2	"	"	"	"	--	"	1.50	1
		05	2	"	"	"	"	--	"	5.72	1
		06	2	"	"	"	"	--	"	2.90	2
		07	2	"	"	"	"	--	Sand-Silt	.70	1
		08	2	"	"	"	"	--	"	.65	2
		09	2	"	"	"	"	--	"	.73	1
	07	02	2	40°20'	71°00'	"	93	--	Silt-Clay	.68	1
		03	2	"	"	"	"	--	"	.92	1
		04	2	"	"	"	"	--	"	3.21	1
		05	2	"	"	"	"	--	"	4.83	2
		06	2	"	"	"	"	--	"	2.88	1
		07	2	"	"	"	"	--	"	8.40	1
		08	2	"	"	"	"	--	"	8.40	1
		09	2	"	"	"	"	--	"	7.30	4
		10	2	"	"	"	"	--	"	5.05	1
	09	04	2	40°05'	71°00'	"	188	--	Silt	2.50	1
		08	2	"	"	"	"	--	Sand	.80	1
		10	2	"	"	"	"	--	"	.68	1

Table 2. Data for qualitative samples (dredges or trawls) in which cerianthid anemones and/or tubes were caught. Cruise code same as in Table 1. Gear codes: 9= Digby dredge, 10= 1 meter sled net, 11= ring net, 12= bottom skimmer, 13= quahog dredge, 14= 1 meter Naturalist dredge, 18= scallop dredge, 19= otter trawl. Asterisk in wet weight column indicates cerianthid tube(s) only.

TABLE 2

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp. (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
55-1-5	02	01	10	40°30'	70°35'	10/04	68	--	Silt-Clay	6.56	2
		03	10	"	"	"	"	--	"	.80	56
		21	9	"	"	"	"	--	"	.50	35
		22	9	"	"	"	"	--	"	.28	6
		32	9	"	"	"	"	--	"	1.16	44
		32	9	"	"	"	"	--	"	1.90	1
56-1-2	01	01	9	40°34'	68°17'	08/11	95	--	Sand	*	1
58-1-7	02	02	14	42°14'	70°04'	11/17	106	--	Gravel	520.00	2
	03	01	14	42°16'	70°00'	"	104	--	"	*	2
	15	02	14	42°02'	69°48'	11/19	161	--	Silt-Sand-Gravel	33.40	1
	19	01	14	42°10'	70°01'	11/20	128	--	Shell sand	14.80	4
	21	01	14	42°11'	69°48'	"	201	--	Muddy gravel	405.16	7
	22	01	14	42°07'	69°46'	"	205	--	"	31.68	48
	32	01	14	42°08'	70°03'	11/21	48	--	Sand	*	12
58-1-8	06	03	14	41°27'	70°53'	12/17	15	--	--	23.20	1
		04	14	"	"	"	"	--	--	26.30	1
59-2-1	132	01	14	42°41'	70°05'	08/10	114	5.6	Gravel	*	2
61-2-2	07	01	14	42°50'	69°00'	06/21	187	4.4	Sand-Silt-Clay	*	5
	08	01	14	42°49'	68°45'	"	238	5.6	Silty clay	*	1
	09	01	14	42°50'	68°31'	"	220	5.3	Silt-Gravel	*	2
	30	01	14	43°00'	69°45'	06/23	183	4.7	Muddy gravel	*	1
	36	01	14	43°10'	69°30'	"	156	3.1	Tilloid	*	2
	38	01	14	43°10'	69°00'	"	174	4.4	Clayey sand	*	6
	52	01	14	43°20'	67°15'	06/24	275	6.4	--	*	1
	54	01	14	43°19'	67°45'	06/25	242	6.4	Silty sand	*	1
	60	01	14	43°20'	69°15'	"	183	3.7	Silty clay	*	1
	70	01	14	43°30'	68°15'	06/26	174	6.5	Sand-Silt-Clay	*	1
	72	01	14	43°30'	67°45'	"	265	6.1	"	*	1
	95	01	14	43°50'	67°00'	06/28	183	5.6	Tilloid	*	2
61-2-6	21	01	19	44°01'	68°13'	10/29	99	--	--	*	2
	22	01	19	44°06'	68°04'	"	88	--	--	*	1
62-2-3	04	01	12	40°30'	69°29'	06/13	62	7.1	Sand	*	2
	06	01	14	40°10'	69°31'	"	92	8.6	"	*	1
	07	01	14	40°00'	69°30'	"	128	1.9	"	*	1
	21	01	14	40°00'	70°00'	06/15	165	1.4	"	*	1
	23	01	12	40°10'	70°15'	"	114	1.6	Silty sand	*	3
		01	14	"	"	"	"	"	"	.15	12
	25	01	14	40°30'	70°15'	06/15	70	6.6	"	.02	3
	35	01	14	40°20'	70°30'	06/16	97	--	Sandy silt	1.62	10
	36	01	14	40°10'	70°30'	"	128	2.1	Silty sand	1.04	9
	40	01	14	40°20'	70°46'	06/17	106	9.2	Sand-Silt-Clay	.76	8
	43	01	14	40°50'	70°45'	"	55	6.8	Sand	*	1
	44	01	14	41°00'	70°45'	06/17	51	6.7	Sand	*	1
	49	01	14	40°40'	71°00'	06/18	70	6.3	Sandy silt	.30	2
	51	01	12	40°21'	71°00'	"	99	9.4	Sandy silt	*	1
		01	14	"	"	"	"	"	"	.11	2
	52	01	14	40°10'	71°00'	"	146	0.8	Silty sand	.25	2

TABLE 2 (Continued)

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
62-2-4	26	01	19	43°55'	68°30'	10/12	102	--	--	*	1
63-4-3	30	01	19	43°44'	68°26'	11/17	174	7.8	--	*	1
	125	01	19	41°16'	66°31'	12/05	88	7.9	--	*	1
	165	01	19	39°34'	72°34'	12/11	84	1.3	--	*	2
64-4-1	205	03	18	41°07'	67°48'	10/11	49	--	Sand	*	2
64-4-3	13	01	19	42°47'	69°39'	11/11	243	5.0	--	*	1
64-4-4	13	01	19	43°15'	70°06'	01/18	144	6.8	--	*	1
	15	01	19	43°16'	69°38'	"	163	6.6	--	*	1
	27	01	19	43°22'	68°56'	01/19	117	6.3	--	*	4
	38	01	19	43°10'	68°03'	01/20	196	6.7	--	*	4
	39	01	19	44°25'	67°54'	01/20	256	7.1	--	*	2
	41	01	19	44°03'	68°05'	01/22	95	4.4	--	*	1
	52	01	19	43°22'	67°14'	01/23	194	6.1	--	*	2
	148	01	19	40°24'	68°20'	02/02	110	5.4	--	*	1
	168	01	19	39°59'	71°28'	02/11	110	--	--	*	5
64-4-6	104	01	19	42°07'	66°56'	08/12	64	9.5	--	*	1
	126	01	19	43°12'	70°21'	08/16	79	5.0	--	*	1
	128	01	19	43°24'	70°01'	08/16	135	4.2	--	*	7
	130	01	19	43°38'	69°36'	08/17	86	7.0	--	*	4
	131	01	19	43°42'	69°10'	"	113	6.0	--	*	1
	145	01	19	43°31'	67°41'	08/18	247	5.3	--	*	1
65-4-2	27	01	19	43°34'	68°31'	02/09	134	4.0	Sand-Silt-Clay	*	50
	28	01	19	43°37'	68°40'	"	157	3.9	Sandy gravel	*	7
	29	01	19	43°40'	68°46'	02/10	124	3.0	Clay	*	4
	30	01	19	43°49'	68°19'	"	137	4.0	"	*	1
	32	01	19	44°16'	67°41'	"	75	1.7	Sand-Silt-Clay	*	1
	33	01	19	44°26'	67°28'	"	68	1.7	--	*	1
	36	01	19	44°42'	66°19'	"	110	2.7	Sandy gravel	*	2
65-4-3	127	01	19	40°01'	71°14'	04/02	243	--	--	*	1
65-4-5	11	01	19	41°52'	69°07'	07/09	188	6.2	Silt-Clay	*	2
65-4-6	01	01	11	40°42'	68°08'	09/23	73	--	Sand	*	1
	19	01	11	40°58'	67°42'	"	53	--	"	*	1
65-4-7	05	01	13	40°41'	71°00'	08/18	59	--	Silt	*	2
		01	18	"	"	"	"	--	--	*	1
	07	01	11	40°20'	71°00'	"	93	--	Silt-Clay	*	1
		01	12	"	"	"	"	--	"	*	1
		01	13	"	"	"	"	--	"	*	10
		01	14	"	"	"	"	--	"	*	10
		01	18	"	"	"	"	--	"	*	10
	08	01	11	40°10'	71°00'	"	139	--	Sand	*	1
		01	14	"	"	"	"	--	"	*	10

TABLE 2 (Continued)

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp. (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
65-4-7	09	01	12	40°05'	71°00'	08/18	188	--	Silty sand	*	1
	10	01	18	40°02'	71°02'	08/19	293	--	--	*	4
	13	01	18	40°13'	70°40'	"	121	--	--	*	40
	14	01	11	40°17'	70°32'	"	93	--	Silt-Clay	*	1
	15	01	14	40°27'	70°22'	08/20	68	--	"	*	1
	26	01	11	40°42'	70°00'	"	40	--	Sand	*	1
	27	01	14	40°35'	69°48'	"	62	--	"	*	1
	40	01	11	40°30'	67°42'	08/22	421	--	"	*	1
		01	14	"	"	"	"	--	"	*	3
	42	01	14	41°01'	67°32'	"	66	--	"	*	10
	56	01	14	43°10'	67°30'	08/24	188	--	"	*	2
	58	01	14	42°34'	67°49'	08/25	232	--	Silt-Clay	*	2
	59	01	18	42°30'	68°10'	08/25	156	--	--	*	1
	60	01	18	42°36'	68°28'	"	220	--	--	*	4
	61	01	14	42°38'	68°49'	"	166	--	Silt-Clay	*	1
		01	18	"	"	"	"	--	--	*	4
	62	02	14	42°28'	69°02'	"	220	--	Clay	*	1
	63	01	18	42°42'	69°03'	"	156	--	--	*	2
	64	01	11	42°46'	69°17'	08/26	73	--	Gravelly sand	*	1
	66	01	18	42°50'	69°46'	"	238	--	--	*	1
	68	01	11	42°52'	70°20'	"	55	--	Clay	*	1
		01	14	"	"	"	"	--	"	*	1
		01	18	"	"	"	"	--	--	*	17
	70	01	18	42°23'	70°22'	"	31	--	--	*	1
65-4-8	13	01	19	43°44'	69°01'	10/08	70	7.5	Tilloid	*	1
	43	01	19	43°05'	67°30'	10/12	207	5.7	--	*	1
66-4-1	18	01	19	42°47'	68°41'	01/20	192	6.1	Clay	3380.00	10
	19	01	19	42°34'	68°35'	"	201	6.2	"	181.80	1
	21	01	19	42°33'	69°21'	"	232	5.8	Gravelly sand	35.30	1
	24	01	19	42°12'	68°51'	01/21	188	5.5	--	13.24	1
	25	01	19	42°09'	69°01'	01/21	137	5.1	Gravelly sand	104.93	2
	32	01	19	43°12'	68°06'	01/22	199	5.9	Gravel	120.00	2
	33	01	19	43°10'	67°48'	"	220	5.8	--	51.20	1
	128	01	19	40°46'	67°09'	02/17	93	4.0	Sand	63.31	1
66-4-5	170	01	19	39°58'	71°22'	11/10	156	9.0	--	1.20	1
67-4-6	13	01	14	40°35'	67°59'	04/07	91	--	Silty sand	29.20	1
68-4-3	103	01	19	39°59'	69°40'	03/17	137	--	--	174.70	1
68-4-5	29	01	14	40°58'	68°58'	08/13	80	--	Sand	.40	2
	38	02	18	41°34'	68°50'	08/13	148	--	Tilloid	128.37	7
	39	01	14	41°34'	68°46'	"	150	--	"	10.00	8
	40	01	14	41°34'	68°40'	08/14	128	--	Sandy silt	2.00	1
	48	01	14	41°50'	67°56'	"	51	--	Sand	*	2

TABLE 2 (Continued)

Cruise	Station	Coll.	Gear	Lat.	Long.	Month/Day	Depth (m)	Temp. (°C)	Substrate	Cerianthid Wet Weight (g)	Cerianthid Number
68-4-5	53	01	14	42°04'	67°30'	"	48	--	Gravelly sand	.22	1
	59	02	14	42°26'	67°14'	"	366	--	Silt-Clay	500.00	3
	60	02	14	42°26'	67°06'	"	"	--	"	57.40	6
	79	01	18	41°54'	65°41'	08/15	549	--	Tilloid	145.00	1
	113	01	14	43°13'	66°15'	08/17	79	--	Gravel	57.50	12
	145	01	14	44°25'	66°47'	08/18	117	--	Tilloid	743.50	5
	160	01	14	44°18'	67°58'	08/19	49	--	"	141.00	1
	162	01	14	44°13'	68°04'	"	55	--	"	1165.63	15
	163	01	14	44°13'	67°58'	"	62	--	"	*	1
	167	02	18	44°00'	68°03'	"	137	--	Silt-Clay	61.00	1
	171	01	14	44°00'	68°29'	08/19	88	--	Tilloid	*	2
	173	01	14	43°52'	68°38'	"	91	--	"	323.20	3
		02	18	43°53'	68°38'	"	"	--	"	456.25	5
	174	01	14	43°49'	68°43'	"	95	--	"	179.26	2
	177	01	14	43°44'	68°56'	"	60	--	"	102.80	8
	180	01	14	43°48'	69°08'	"	79	--	"	*	1
	181	01	14	43°48'	69°14'	"	77	--	"	*	1
	182	71	14	43°48'	69°20'	"	60	--	"	320.00	1
	185	01	14	43°40'	69°35'	"	82	--	"	96.00	4
	186	01	14	43°40'	69°42'	"	64	--	"	336.00	4
		71	14	"	"	"	"	--	"	8.65	1
	190	01	14	43°32'	69°46'	08/20	106	--	Silty clay	35.40	4
	203	01	14	43°16'	70°04'	"	137	--	Tilloid	*	1
	208	01	14	43°02'	70°23'	"	91	--	"	*	1
	213	01	14	42°46'	70°22'	"	88	--	"	80.40	3
	214	01	14	42°54'	70°15'	"	64	--	Gravelly sand	550.00	10
	219	02	14	42°45'	69°50'	08/21	238	--	Tilloid	44.50	1
	225	01	14	42°38'	70°28'	"	91	--	Silty sand	4.80	2
	235	01	13	42°08'	70°31'	"	37	--	Sand	4.90	1
69-4-8	209	01	19	42°07'	69°29'	"	192	5.7	Silt-Clay	*	4
	213	01	19	42°25'	70°00'	"	165	5.5	Silty sand	*	1
	225	01	19	43°47'	69°05'	08/23	91	8.2	"	*	1

Table 3. Data for samples (all gears) in which only cerianthid tube remains were obtained. Cruise code same as Table 1. Gear codes described in Tables 1 and 2.

TABLE 3

Cruise	Station	Collection	Gear	Latitude	Longitude	Depth (m)	Temperature (°C)	Substrate
55-1-7	4	1	9	41°06'	68°38'	48	8.9	Sand
56-1-2	5	2	9	42°10'	67°58'	232	--	Silty sand
		12	2	"	"	232	--	"
	6	2	9	41°23'	67°38'	40	--	Sand
	7	2	9	41°06'	68°52'	95	--	Sand
61-2-2	29	1	2	43°00'	69°30'	201	--	Muddy gravel
62-2-3	12	1	14	40°20'	69°46'	79	6.7	Sand
	32	2	2	40°50'	70°30'	59	6.9	Sand
63-3-3	1031	1	3	43°40'	69°16'	127	--	Silty clay
	1048	1	3	42°20'	68°28'	203	--	Silty clay
63-3-4	1080	1	3	39°50'	72°00'	116	--	Sand
63-3-6	1112	1	3	40°29'	68°01'	123	--	Sand
	1121	1	3	41°17'	67°16'	57	--	Sand
	1175	1	3	44°20'	67°00'	128	--	Tilloid
	1178	1	3	44°10'	66°44'	125	--	Sandy gravel
	1180	1	3	44°11'	67°16'	144	--	Silt-Gravel
	1181	1	3	43°58'	68°30'	94	--	Sand-Silt-Clay
	1192	1	3	42°10'	69°31'	225	--	Clayey sand
63-3-7	1211	1	3	42°00'	69°57'	48	--	Gravelly sand
	1214	1	3	41°39'	69°16'	183	--	Sand-Silt-Clay
	1237	1	3	43°10'	65°44'	64	--	Shelly sand
	1243	1	3	43°20'	65°00'	168	--	Clayey silt
	1250	1	3	42°24'	64°14'	1628	--	Silty clay
	1278	1	3	40°41'	72°30'	38	--	Sand
	1281	1	3	40°30'	72°01'	54	--	Sand
	1288	1	3	40°20'	73°29'	31	--	Sand
63-3-9	1316	1	3	39°21'	74°14'	20	--	Shelly sand
	1322	1	3	39°20'	72°46'	84	--	Sand
	1388	1	3	39°01'	73°01'	80	--	Sand
	1348	1	3	39°00'	74°15'	28	--	Sand

TABLE 3 (Continued)

Cruise	Station	Collection	Gear	Latitude	Longitude	Depth (m)	Temperature (°C)	Substrate
63-3-9	1351	1	3	39°01'	74°00'	38	--	Sand
	1355	1	3	38°49'	73°15'	81	--	Sand
	1359	1	3	38°40'	73°16'	88	--	Sand
	1381	1	3	40°06'	74°00'	23	--	Sand
	1389	1	3	40°36'	73°10'	22	--	Sand
63-4-3	108	1	19	42°04'	68°42'	161	6.2	--
64-3-2	1431	1	3	35°51'	75°15'	30	--	Sand
	1867	1	3	35°06'	75°07'	500	--	Clayey silt
	1893	1	3	38°10'	73°52'	491	--	Sand-Silt-Clay
64-3-3	2034	1	3	38°10'	74°46'	32	--	Shell
	2038	1	3	37°50'	74°45'	41	--	Sand
	2039	1	3	37°50'	75°00'	26	--	Sand
	2044	1	3	37°30'	75°16'	30	--	Sand
	2047	1	3	37°19'	75°16'	29	--	Sand
	2049	1	3	37°10'	75°29'	27	--	Sand
	2065	1	3	35°50'	75°30'	23	--	Shelly sand
	2081	1	3	36°35'	74°42'	190	--	Sand
	2104	1	3	38°10'	74°29'	41	--	Sand
	2124	1	3	39°05'	72°08'	1780	--	Clayey silt
	2149	1	3	39°57'	69°54'	245	--	Sand
	2150	1	3	39°46'	69°44'	1675	--	Sand-Silt-Clay
	2170	1	3	39°59'	68°10'	2187	--	Sand-Silt-Clay
	2178	1	3	40°10'	68°00'	1830	--	Clayey silt
	2181	1	3	40°14'	67°46'	940	--	Sandy silt
	2182	1	3	40°22'	67°30'	465	--	Silty sand
	2185	1	3	40°17'	67°28'	1420	--	Clayey silt
64-4-1	203	1	2	41°12'	67°00'	64	--	Sand
	204	1	2	41°08'	67°15'	64	--	Sand
64-4-4	34	1	19	42°22'	68°09'	183	6.6	--
	109	1	19	41°56'	69°40'	179	5.6	--

TABLE 3 (Continued)

Cruise	Station	Collection	Gear	Latitude	Longitude	Depth (m)	Temperature (°C)	Substrate
64-5-2	1908	1	2	44°11'	68°31'	28	--	Silty sand
	1909	1	2	44°09'	68°43'	32	--	Clayey silt
	1932	1	2	41°40'	71°13'	7	--	Clayey silt
	1950	1	2	40°54'	73°42'	13	--	Silty clay
	1959	1	2	40°00'	74°02'	19	--	Sand
	1983	1	2	38°08'	76°13'	23	--	Sand
	1992	1	2	37°14'	76°20'	12	--	Clayey silt
	1994	1	2	36°58'	76°21'	13	--	Gravelly shell
	1995	1	2	36°59'	76°08'	10	--	Sand